

CTE ROI Study Update

October 28, 2014

Agenda

- * Current CTE Funding Formula
- * CTE ROI Study Findings
- * Considerations in Adjusting the Formula
- * Myths and Facts

Statewide Funding for Secondary CTE

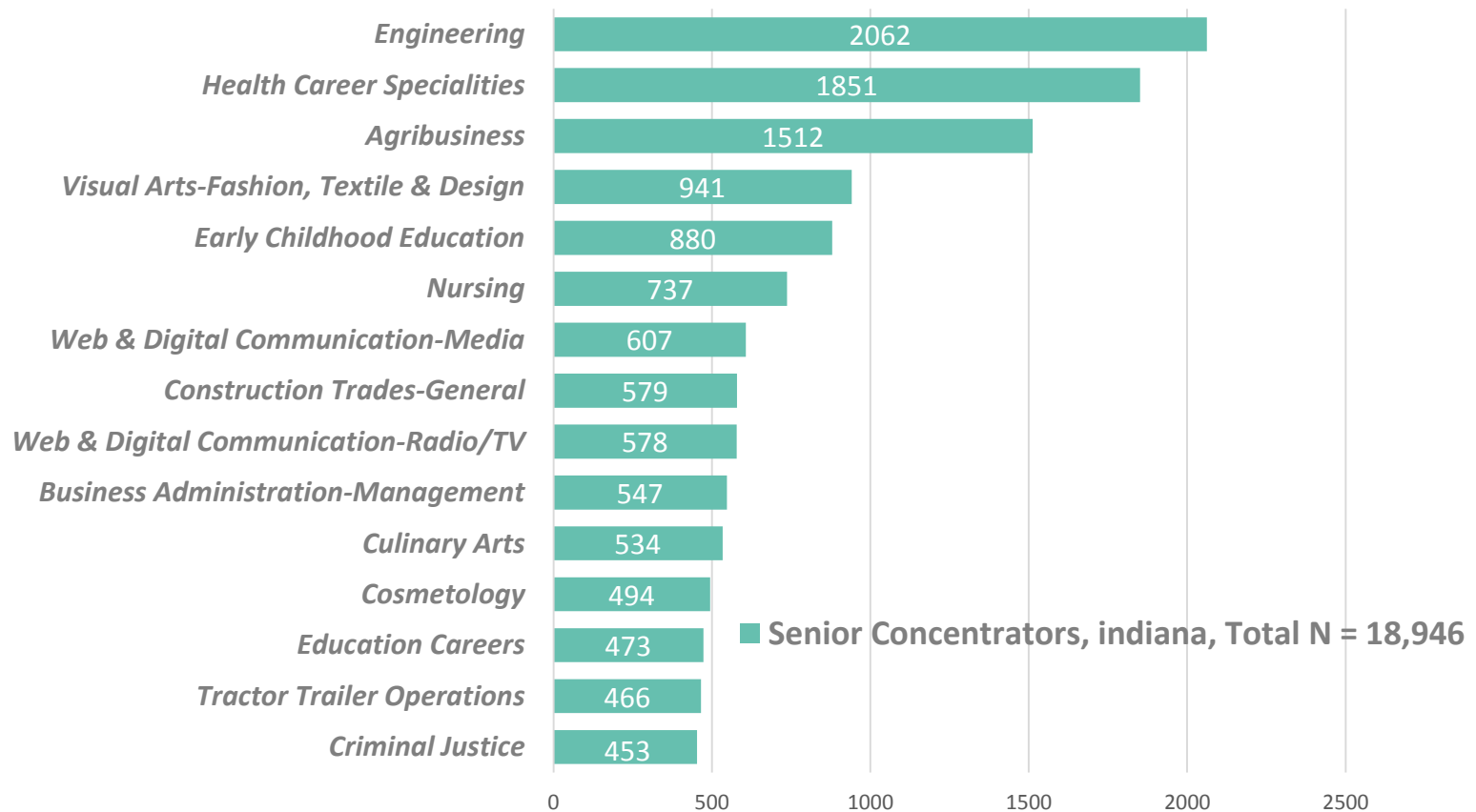
- * \$100M in state funds.
 - * Included as a categorical in the K-12 tuition funding formula.
 - * Based on a tiered funding structure where funding levels are determined by the wage associated with the career in that course and the amount of market demand for that course.
- * \$14.3M in federal Perkins funding.

Per Credit Funding Levels for Secondary CTE Courses

Market Demand	High Wage	Moderate Wage	Low Wage
High Demand	\$450	\$375	\$300
Moderate Demand	\$375	\$300	\$225
Low Demand	\$300	\$225	\$150
Other Programs--not included in wage/demand categories	\$250 per course		
Area Participation	\$150 per student		

CTE Cluster	CTE Pathway - Focus	CTE Cluster	CTE Pathway - Focus
Agriculture	Agribusiness	Health Science	Biomedical
	Horticulture & Landscape		Biotechnology
	Life Sciences-Animal Science		Dental
	Life Sciences-Food Science		Dietetics & Nutrition Science
	Life Sciences-Natural Resources		Health Career Specialties
	Life Sciences		Nursing
	Facilities-Building and Facilities Management		Veterinary
	Facilities-Facility Maintenance		Cosmetology
	Facilities-Facilities Management		Culinary Arts
	Construction Trades-General	Hospitality & Human Services	Hospitality Management
Architecture & Construction	Construction Trades-Electrical		Human & Social Services
	Construction Trades-Heavy Equipment		PC Networking & Support-Networking
	Construction Trades-HVAC		PC Networking & Support-PC Support
	Drafting and Design-Architectural		PC Programming
	Drafting and Design-Mechanical	Information Technology	Advanced Manufacturing
	Visual Arts-Photography		Electronics
	Visual Arts-Fashion, Textile & Design		Manufacturing & Engineering
	Visual Arts-Visual Communication		Logistics
	Web & Digital Communication-Media		Logistics & Supply Chain Management
	Web & Digital Communication-Radio/TV	Public Safety	Machine Tool
Arts, AV Technology and Communication	Business Administration-Accounting		Welding
	Business Administration-Management		Criminal Justice
	Business Administration-Entrepreneurship		EMT/Paramedic
	Business Administration-Hospitality		Fire & Rescue
	Business Administration-Marketing	Transportation	Automotive Collision Repair
Business and Marketing	Business Administration-Sports/Entertainment		Automotive Technology
	Early Childhood Education		Aviation
	Education Careers		Diesel Services Technology
			Recreation & Mobile Equipment
			Tractor Trailer Operations

INDIANA'S TOP 15 CTE CAREER PATHWAYS BY NUMBER OF GRADUATING SENIOR CONCENTRATORS, 2013



Source: Indiana Department of Workforce Development. Data Provided. 2014 *Chart does not include 'Unspecified Pathway' concentrators.



ROI Analysis Process

- Identified student cohorts and corresponding enrollments
- Identified concentrator students
- Identified corresponding group of non-CTE participants for the cohorts
- Examined outcomes: graduation rates, post secondary enrollments and completions, wages and assessments for all groups



ROI Analysis Process - Cohorts

	Senior Year	Data Series
Cohort #1	2007 - 2008	Data series begins with 8 th grade in 2003 - 2004
Cohort #2	2008 - 2009	Data series begins with 8 th grade in 2004 - 2005
Cohort #3	2009 - 2010	Data series begins with 8 th grade in 2005 - 2006
Cohort #4	2010 - 2011	Data series begins with 8 th grade in 2006 - 2007
Cohort #5	2011 - 2012	Data series begins with 8 th grade in 2007 - 2008
Cohort #6	2012 - 2013	Data series begins with 8 th grade in 2008 - 2009



Definitions and Methods

- A “concentrator” is defined as either four or six credits taken across a pathway, depending on year enrolled, during high school
- Organized students and CTE enrollments into six “cohorts”
- Compared investments in concentrating students vs non-concentrating students



Traditional ROI Formula

$$\text{Return on Investment (\%)} = \frac{(\text{Gains} - \text{Cost})}{\text{Cost}} \times 100$$



Non-traditional ROI Formula

$$\text{Return on Investment (\%)} = \frac{(\text{Outcomes} - \text{Public Investment})}{\text{Public Investment}} \times 100$$

Outcomes:

- graduation rates
- post secondary enrollments and completions
- wages
- assessments

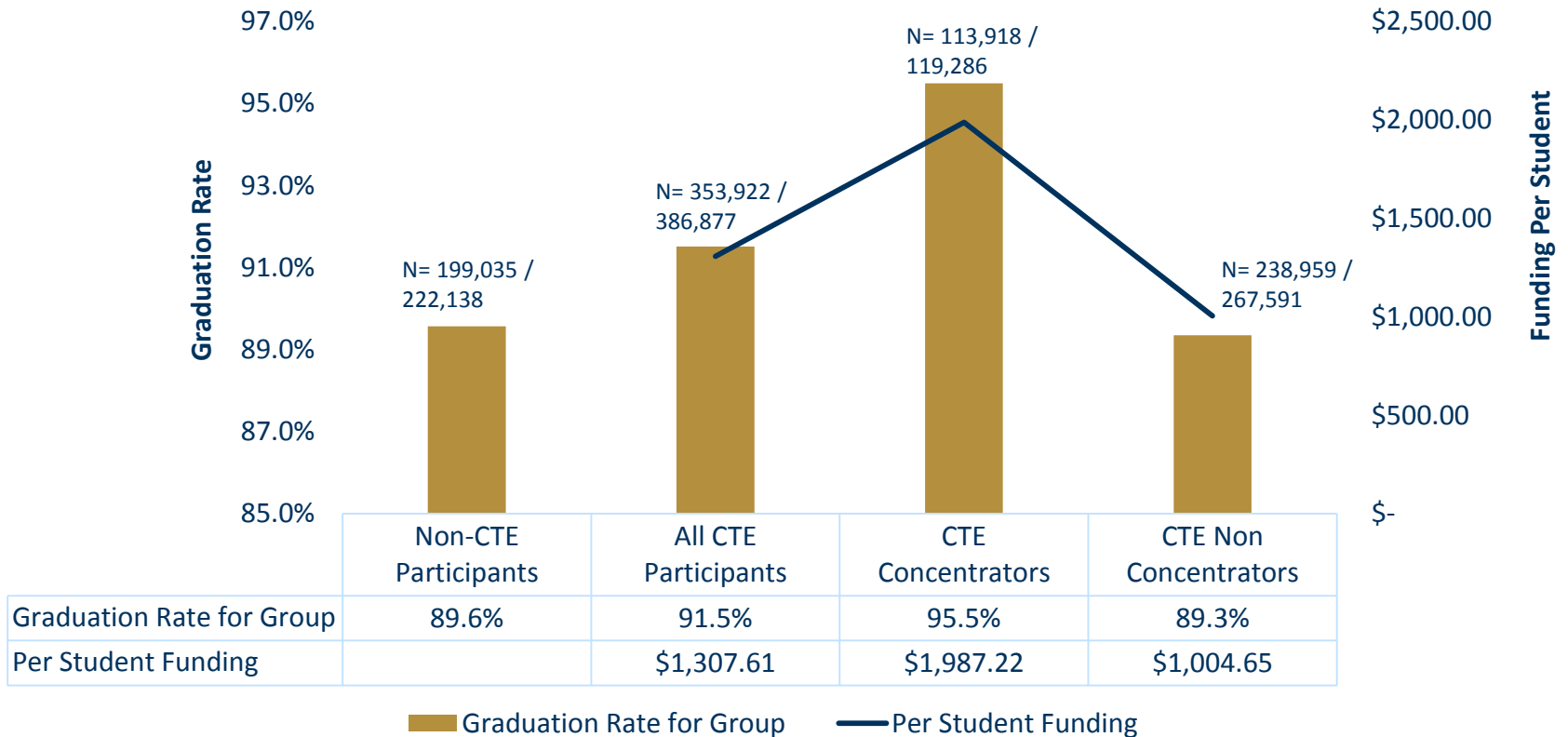


Key ROI Analysis Findings

- Concentrators have a higher graduation rate compared to other students in their cohort
- Concentrators earn higher wages compared to other students in their cohort
- Some career pathways lead to a wage premium

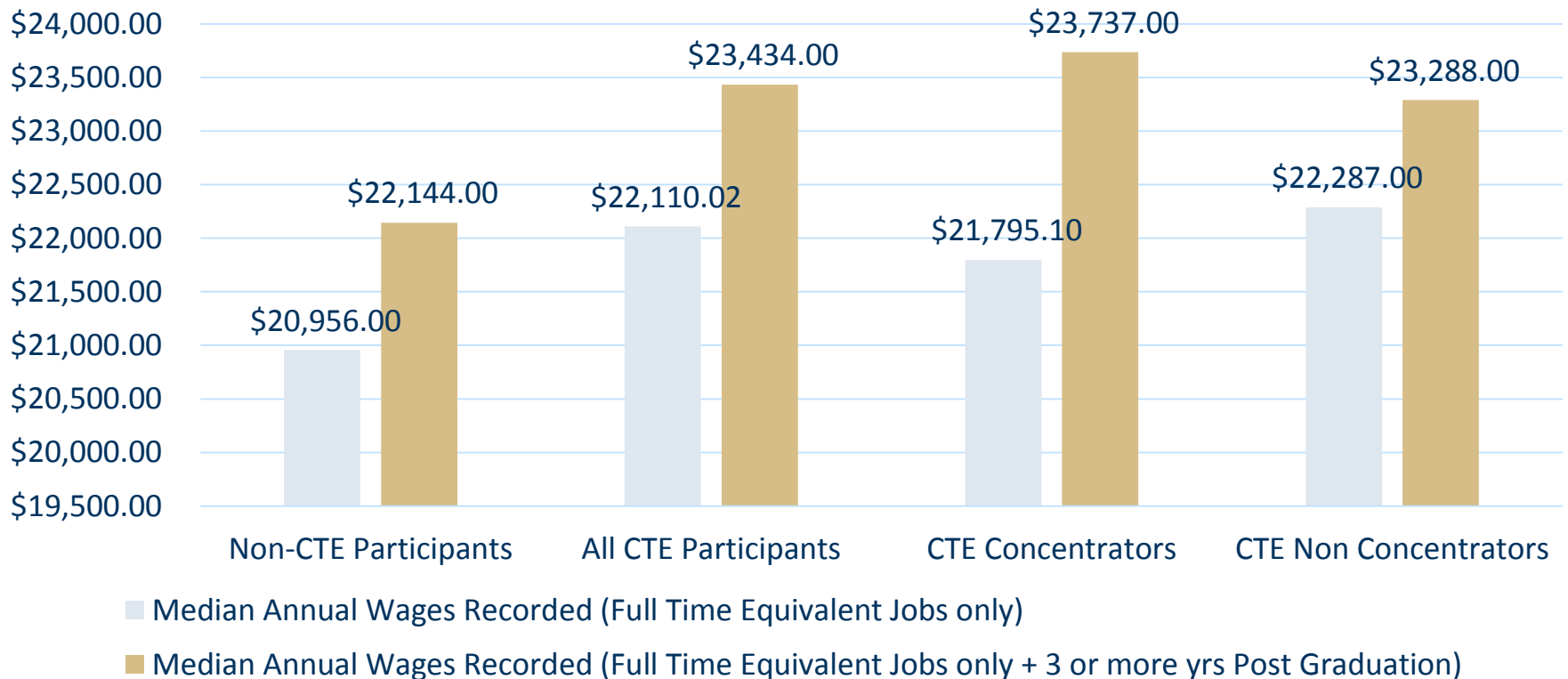
Outcomes – Secondary Graduation Rate

Graduation Rates by Group Compared to Funding



Outcomes - Wages

Median Annual FT Wages Recorded
(All Years and Cohorts)



Outcomes – Wages Selected Courses

Reported Full Time Wages	Number of Enrollments	# with one or more full time wage years reported	# of total full time wage years reported	Wage Premium of course wages over "All CTE Participant" wages	Wage Premium of NAICs connected wages over "All CTE Participants" wages	Wage Premium of NAICs connected wages over Course taken in general
Diesel Technology	1,355	460	1,511	\$2,352.98	\$3,674.48	\$1,321.50
Precision Machining	4,787	1,592	5,434	\$2,316.98	\$4,693.98	\$2,377.00
Welding Technology	7,318	2,498	8,011	\$2,107.48	\$4,504.98	\$2,397.50
Preparing for College and Careers	73,819	15,502	9,079	\$1,061.98	n/a	n/a
Automotive Services Technology I	13,536	4,651	14,374	\$1,059.48	\$2,507.48	\$1,448.00
Advanced Manufacturing / Mechanical Engineering	2,246	493	1,166	\$732.48	\$3,889.98	\$3,157.50
Introduction to Agriculture, Food and Natural Resources	6,200	1,571	3,643	\$648.48	\$2,913.98	\$2,265.50

Outcomes – Wages Selected Pathways

Selected Pathway	Intro Course Median FT Wages*	Full Pathway Median FT Wages**	Premium for Completing Pathway vs Starting it	Premium for Pathway completion over avg Concentrator	# of Pathway completers with FT wages reported	# of Pathway completers FT wage years reported
Agribusiness	\$ 22,758.50	\$ 24,919.00	\$2,160.50	\$3,123.90	1,121	3,643
Electrical Construction	\$ 24,509.00	\$ 25,172.00	\$663.00	\$3,376.90	270	740
Radio/TV	\$ 21,410.00	\$ 22,317.00	\$907.00	\$521.90	418	1038
Entrepreneurship	\$ 22,098.00	\$ 22,094.00	-\$4.00	\$298.90	293	786
Early Childhood Education	\$ 20,404.00	\$ 20,109.00	-\$295.00	-\$1,686.10	1,702	4,747
Nursing	\$ 19,445.00	\$ 20,277.00	\$832.00	-\$1,518.10	1,180	4,305
Culinary Arts	\$ 20,562.00	\$ 20,318.00	-\$244.00	-\$1,477.10	627	1,280
Computer Networking	\$ 22,959.00	\$ 23,068.00	\$109.00	\$1,272.90	299	750
Welding	\$ 24,217.50	\$ 26,148.00	\$1,930.50	\$4,352.90	1,124	3,658
EMT / Paramedic	\$ 19,445.00	\$ 21,907.00	\$2,462.00	\$111.90	380	933
Automotive Technology	\$ 23,169.50	\$ 24,926.00	\$1,756.50	\$3,130.90	2,646	8,629



Recommendations ROI and Benchmarks

- Emphasize outcomes
- The higher the value of the outcome, the healthier the ROI will be
- To improve the ROI, focus on increasing outcomes at current funding levels
 - Concentrators and career pathways can improve outcomes most significantly.
 - The ROI can be magnified by focusing on specific high-value pathways and courses.
- Use data from 2014 ROI Study as a benchmark to compare future data and outcomes

Outcomes vs. Inputs

- * Today, CTE funding is focused entirely on inputs.
- * Student enrollment in specific classes determines the amount of funding that a school corporation receives.
- * Indiana should shift from paying for inputs to paying for outcomes that benefit students who participate in CTE.

Possible Outcomes

- * Concentrators
- * Completion of a CTE pathway (sequence of courses)
- * Receipt of an industry recognized credential
- * Completion of at least 12 dual credits
- * Placement of students after high school

Possible Enrollment Factors

- * Tier enrollments funding by the type of course (lowest to highest reimbursement)
 - * Foundational (Preparing for College and Careers, Adult Roles and Responsibilities, etc.)
 - * Introductory (Intro to Agriculture, Intro to Manufacturing, etc.)
 - * Work-based Learning
 - * Standard Pathway Course (TBD)
 - * Premium Pathway Course (TBD)

Community Engagement

- * Throughout the state, schools are partnering with business and other community organizations.
- * These partnerships often include monetary donations, in kind donations, technical assistance, and work-based learning/externship experiences that benefit students.
- * Can the state reward schools who develop meaningful and exemplary relationships with local organizations and business?
- * If so, how should the reward be done?

Myth vs. Fact

- * Myth 1: Schools will lose money.
- * Fact: The \$100M will still be budgeted for career and technical education funds to be sent to school corporations.
- * Fact: Every year, the funding to school corporations fluctuates depending on enrollment. Some corporations receive more money; some may receive less.

Myth vs. Fact

- * Myth 2: Focus on outcomes will cause negative competition among CTE districts.
- * Fact: CTE Directors, Principals, and Superintendents are focused doing on what is best for students, so it would seem unlikely that shifting the focus to outcomes will cause negative competition.
- * Fact: Demonstrating improved outcomes to the General Assembly will be critical to increasing funding in future years.

Myth vs. Fact

- * Myth 3: CTE will become a training ground for low-wage jobs.
- * Fact: The outcomes that could be incentivized (concentrators, pathway completion, and industry certifications) are associated with higher wages jobs.
- * Fact: Additionally, the tiered enrollments structure will likely be based around courses which have higher wages with their associated careers.

Myth vs. Fact

- * Myth 4: Career exploration is no longer valued.
- * Fact: The tiered enrollment structure may reduce the funding for foundational and introductory courses, but it still values all courses.
- * Fact: Nevertheless, this structure focuses on courses that are more closely associated with higher wages after graduation.

Myth vs. Fact

- * Myth 5: One hour courses will be cut.
- * Fact: No courses are being cut, and all courses will still be funded.
- * Fact: The State Board of Education determines which courses are approved for CTE. That is unlikely to be changed.

Myth vs. Fact

- * Myth 6: Students are being trained for the workforce at the expense of being educated to be well-rounded citizens.
- * Fact: All students need to be prepared to have a successful career, either after high school or after college. Considering career pathway options and ensuring a well-rounded education are not mutually exclusive.

Questions

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